

CLAIMS

What is claimed is:

1. A hand-held motorized household cleaning apparatus comprising:
 - a housing;
 - a battery located in the housing;
 - a motor located in the housing and connected to the battery;
 - an output drive shaft powered by the motor;
 - a cleaning attachment coupled for movement with the output drive shaft; and
 - a liquid delivery system having a reservoir, a nozzle, a valve and at least one fluid conduit, the reservoir being coupled to the housing and operable for storing a pressurized fluid therein, the nozzle being coupled to the housing, the valve being at least partially housed in the housing and being operable for selectively permitting the fluid to be dispensed through the fluid conduit between the reservoir and the nozzle.

2. The hand-held motorized household cleaning apparatus of Claim 1, wherein the reservoir has a variable internal volume.

3. The hand-held motorized household cleaning apparatus of Claim 2, wherein the reservoir includes a resilient bladder.

4. The hand-held motorized household cleaning apparatus of Claim 3, wherein the reservoir further includes a bladder housing into which the resilient bladder is received, the bladder housing being operable for inhibiting expansion of the resilient bladder beyond a predetermined amount.

5. The hand-held motorized household cleaning apparatus of Claim 2, wherein the reservoir includes a reservoir housing and a piston that is slidably received into the reservoir housing.

6. The hand-held motorized household cleaning apparatus of Claim 5, wherein the reservoir further includes a spring for biasing the piston into the reservoir housing.

7. The hand-held motorized household cleaning apparatus of Claim 5, wherein the reservoir is removable from the housing.

8. The hand-held motorized household cleaning apparatus of Claim 2, wherein the reservoir includes check valve in fluid communication with the resilient bladder, the check valve being operable in a first condition that permits the fluid to be introduced into the resilient bladder for filling the resilient bladder, the check valve being operable in a second condition that inhibits the fluid from flowing from the resilient bladder through the check valve.

9. The hand-held motorized household cleaning apparatus of Claim 1, wherein the fluid conduit includes a first portion, which fluidly couples the reservoir and the valve, and a second portion, which fluidly couples the valve and the nozzle, the valve including a valve element that is interposed between the first and second portions of the fluid conduit, the valve element being selectively positionable in a first position, which inhibits fluid communication between the first and second portions of the fluid conduit, and a second position, which permits fluid communication between the first and second positions.

10. The hand-held motorized household cleaning apparatus of Claim 1, wherein the valve includes a compression arm that is movable between a first position, which deforms the fluid conduit to inhibit a flow of the fluid therethrough, and a second position, which permits the fluid to flow through the fluid conduit.

11. The hand-held motorized household cleaning apparatus of Claim 10, wherein the valve includes a mounting block for movably mounting the compression arm.

12. The hand-held motorized household cleaning apparatus of Claim 11, wherein the compression arm is pivotally coupled to the mounting block.

13. The hand-held motorized household cleaning apparatus of Claim 10, wherein the mounting block is configured to hold the fluid conduit in an area proximate the compression arm.

14. The hand-held motorized household cleaning apparatus of Claim 1, wherein the nozzle includes a nozzle mount and a nozzle body, the nozzle mount including a conically shaped interior sidewall, the nozzle body including a head portion with an exterior surface that generally matches that of the conically shaped interior sidewall.

15. The hand-held motorized household cleaning apparatus of Claim 14, wherein a plurality of grooves are formed in the exterior surface of the head portion.

16. The hand-held motorized household cleaning apparatus of Claim 14, wherein the nozzle body is threadably coupled to the nozzle mount.

17. The hand-held motorized household cleaning apparatus of Claim 16, wherein the nozzle body includes a threadform and the nozzle mount includes a mating threadform, and wherein a fluid delivery passage is formed in at least one of the threadform and the mating threadform to permit the fluid to be transmitted through the nozzle mount and by the nozzle body.

18. A hand-held motorized household cleaning apparatus comprising:
- a housing;
 - a battery located in the housing;
 - a motor located in the housing and connected to the battery,
 - an output drive shaft driven by the motor, the output drive shaft being rotatable about a shaft axis;
 - a cleaning attachment that is rotatable about an attachment axis; and
 - a flexible adapter that may be selectively interposed between the output drive shaft and the cleaning attachment, the flexible adapter having a first drive end, which is configured to releasably engage the output drive shaft, and a second drive end, which is configured to releasably engage the cleaning attachment, the flexible adapter permitting rotation of the cleaning attachment between a first position, wherein the attachment axis is generally coincident with the shaft axis, and a second position, wherein the attachment axis and the shaft axis are arranged in an oblique condition.

19. The hand-held motorized household cleaning apparatus of Claim 19, wherein the flexible adapter includes a unitarily formed flexible member that interconnects the first and second drive ends.

20. The hand-held motorized household cleaning apparatus of Claim 19, wherein at least one necked down portion is formed about the flexible member.

21. The hand-held motorized household cleaning apparatus of Claim 19, wherein the flexible member has a durometer of about 35 Shore A to about 60 Shore A.